

Third Amended Sequence Listing

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Wu, Shinn-Chih



<120> Method for producing biologically active human factor VIII
in the milk of transgenic animals driven by mammary-specific
expression cassettes

<130> 683884-2US

<140> US 10/820,777

<141> 2004-04-09

<160> 15

<170> PatentIn version 3.2

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<211> 63

<212> DNA

<213> Artificial

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<223> Synthetic

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aac 63

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<211> 22

<212> DNA

<213> Homo sapiens

<400> 3

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<212> DNA

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<210> 6

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24

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<212> DNA

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ctctcttgtc atcctcttcc

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<212> DNA

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<212> DNA

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22

<210> 13

<211> 19

<212> PRT

<213> Bovine

<400> 13

Met Met Ser Phe Val Ser Leu Leu Leu Val Gly Ile Leu Phe His

5

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Ala Thr Glu Ala

<210> 14

<211> 15

<212> PRT

<213> Bovine

<400> 14

Met Lys Leu Leu Ile Leu Thr Cys Leu Val Ala Val Ala Ala Arg

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<210> 15

<211> 1448

<212> PRT

<213> Artificial

<220>

<223> Bovine-Homo sapiens fusion protein

<400> 15

Met Lys Leu Leu Ile Leu Thr Cys Leu Val Ala Val Ala Ala Arg Leu

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15

Ala Ala Ser Ala Arg Ala Trp Pro Lys Met His Thr Val Asn Gly Tyr
 240 245 250
 Val Asn Arg Ser Leu Pro Gly Leu Ile Gly Cys His Arg Lys Ser Val
 255 260 265 270
 Tyr Trp His Val Ile Gly Met Gly Thr Thr Pro Glu Val His Ser Ile
 275 280 285
 Phe Leu Glu Gly His Thr Phe Leu Val Arg Asn His Arg Gln Ala Ser
 290 295 300
 Leu Glu Ile Ser Pro Ile Thr Phe Leu Thr Ala Gln Thr Leu Leu Met
 305 310 315
 Asp Leu Gly Gln Phe Leu Leu Phe Cys His Ile Ser Ser His Gln His
 320 325 330
 Asp Gly Met Glu Ala Tyr Val Lys Val Asp Ser Cys Pro Glu Glu Pro
 335 340 345 350
 Gln Leu Arg Met Lys Asn Asn Glu Glu Ala Glu Asp Tyr Asp Asp Asp
 355 360 365
 Leu Thr Asp Ser Glu Met Asp Val Val Arg Phe Asp Asp Asp Asn Ser
 370 375 380
 Pro Ser Phe Ile Gln Ile Arg Ser Val Ala Lys Lys His Pro Lys Thr
 385 390 395
 Trp Val His Tyr Ile Ala Ala Glu Glu Glu Asp Trp Asp Tyr Ala Pro
 400 405 410
 Leu Val Leu Ala Pro Asp Asp Arg Ser Tyr Lys Ser Gln Tyr Leu Asn
 415 420 425 430
 Asn Gly Pro Gln Arg Ile Gly Arg Lys Tyr Lys Lys Val Arg Phe Met
 435 440 445
 Ala Tyr Thr Asp Glu Thr Phe Lys Thr Arg Glu Ala Ile Gln His Glu
 450 455 460

Ser Gly Ile Leu Gly Pro Leu Leu Tyr Gly Glu Val Gly Asp Thr Leu
 465 470 475
 Leu Ile Ile Phe Lys Asn Gln Ala Ser Arg Pro Tyr Asn Ile Tyr Pro
 480 485 490
 His Gly Ile Thr Asp Val Arg Pro Leu Tyr Ser Arg Arg Leu Pro Lys
 495 500 505 510
 Gly Val Lys His Leu Lys Asp Phe Pro Ile Leu Pro Gly Glu Ile Phe
 515 520 525
 Lys Tyr Lys Trp Thr Val Thr Val Glu Asp Gly Pro Thr Lys Ser Asp
 530 535 540
 Pro Arg Cys Leu Thr Arg Tyr Tyr Ser Ser Phe Val Asn Met Glu Arg
 545 550 555
 Asp Leu Ala Ser Gly Leu Ile Gly Pro Leu Leu Ile Cys Tyr Lys Glu
 560 565 570
 Ser Val Asp Gln Arg Gly Asn Gln Ile Met Ser Asp Lys Arg Asn Val
 575 580 585 590
 Ile Leu Phe Ser Val Phe Asp Glu Asn Arg Ser Trp Tyr Leu Thr Glu
 595 600 605
 Asn Ile Gln Arg Phe Leu Pro Asn Pro Ala Gly Val Gln Leu Glu Asp
 610 615 620
 Pro Glu Phe Gln Ala Ser Asn Ile Met His Ser Ile Asn Gly Tyr Val
 625 630 635
 Phe Asp Ser Leu Gln Leu Ser Val Cys Leu His Glu Val Ala Tyr Trp
 640 645 650
 Tyr Ile Leu Ser Ile Gly Ala Gln Thr Asp Phe Leu Ser Val Phe Phe
 655 660 665 670
 Ser Gly Tyr Thr Phe Lys His Lys Met Val Tyr Glu Asp Thr Leu Thr
 675 680 685

Asp Gln Arg Gln Gly Ala Glu Pro Arg Lys Asn Phe Val Lys Pro Asn			
915	920	925	
Glu Thr Lys Thr Tyr Phe Trp Lys Val Gln His His Met Ala Pro Thr			
930	935	940	
Lys Asp Glu Phe Asp Cys Lys Ala Trp Ala Tyr Phe Ser Asp Val Asp			
945	950	955	
Leu Glu Lys Asp Val His Ser Gly Leu Ile Gly Pro Leu Leu Val Cys			
960	965	970	
His Thr Asn Thr Leu Asn Pro Ala His Gly Arg Gln Val Thr Val Gln			
975	980	985	990
Glu Phe Ala Leu Phe Phe Thr Ile Phe Asp Glu Thr Lys Ser Trp Tyr			
995	1000	1005	
Phe Thr Glu Asn Met Glu Arg Asn Cys Arg Ala Pro Cys Asn Ile Gln			
1010	1015	1020	
Met Glu Asp Pro Thr Phe Lys Glu Asn Tyr Arg Phe His Ala Ile Asn			
1025	1030	1035	
Gly Tyr Ile Met Asp Thr Leu Pro Gly Leu Val Met Ala Gln Asp Gln			
1040	1045	1050	
Arg Ile Arg Trp Tyr Leu Leu Ser Met Gly Ser Asn Glu Asn Ile His			
1055	1060	1065	1070
Ser Ile His Phe Ser Gly His Val Phe Thr Val Arg Lys Lys Glu Glu			
1075	1080	1085	
Tyr Lys Met Ala Leu Tyr Asn Leu Tyr Pro Gly Val Phe Glu Thr Val			
1090	1095	1100	
Glu Met Leu Pro Ser Lys Ala Gly Ile Trp Arg Val Glu Cys Leu Ile			
1105	1110	1115	
Gly Glu His Leu His Ala Gly Met Ser Thr Leu Phe Leu Val Tyr Ser			
1120	1125	1130	

Asn Lys Cys Gln Thr Pro Leu Gly Met Ala Ser Gly His Ile Arg Asp			
1135	1140	1145	1150
Phe Gln Ile Thr Ala Ser Gly Gln Tyr Gly Gln Trp Ala Pro Lys Leu			
1155	1160	1165	
Ala Arg Leu His Tyr Ser Gly Ser Ile Asn Ala Trp Ser Thr Lys Glu			
1170	1175	1180	
Pro Phe Ser Trp Ile Lys Val Asp Leu Leu Ala Pro Met Ile Ile His			
1185	1190	1195	
Gly Ile Lys Thr Gln Gly Ala Arg Gln Lys Phe Ser Ser Leu Tyr Ile			
1200	1205	1210	
Ser Gln Phe Ile Ile Met Tyr Ser Leu Asp Gly Lys Lys Trp Gln Thr			
1215	1220	1225	1230
Tyr Arg Gly Asn Ser Thr Gly Thr Leu Met Val Phe Phe Gly Asn Val			
1235	1240	1245	
Asp Ser Ser Gly Ile Lys His Asn Ile Phe Asn Pro Pro Ile Ile Ala			
1250	1255	1260	
Arg Tyr Ile Arg Leu His Pro Thr His Tyr Ser Ile Arg Ser Thr Leu			
1265	1270	1275	
Arg Met Glu Leu Met Gly Cys Asp Leu Asn Ser Cys Ser Met Pro Leu			
1280	1285	1290	
Gly Met Glu Ser Lys Ala Ile Ser Asp Ala Gln Ile Thr Ala Ser Ser			
1295	1300	1305	1310
Tyr Phe Thr Asn Met Phe Ala Thr Trp Ser Pro Ser Lys Ala Arg Leu			
1315	1320	1325	
His Leu Gln Gly Arg Ser Asn Ala Trp Arg Pro Gln Val Asn Asn Pro			
1330	1335	1340	
Lys Glu Trp Leu Gln Val Asp Phe Gln Lys Thr Met Lys Val Thr Gly			
1345	1350	1355	

Val Thr Thr Gln Gly Val Lys Ser Leu Leu Thr Ser Met Tyr Val Lys
 1360 1365 1370
 Glu Phe Leu Ile Ser Ser Ser Gln Asp Gly His Gln Trp Thr Leu Phe
 1375 1380 1385 1390
 Phe Gln Asn Gly Lys Val Lys Val Phe Gln Gly Asn Gln Asp Ser Phe
 1395 1400 1405
 Thr Pro Val Val Asn Ser Leu Asp Pro Pro Leu Leu Thr Arg Tyr Leu
 1410 1415 1420
 Arg Ile His Pro Gln Ser Trp Val His Gln Ile Ala Leu Arg Met Glu
 1425 1430 1435
 Val Leu Gly Cys Glu Ala Gln Asp Leu Tyr
 1440 1445